Name:_____   Date:_____

Polynomial Factoring practice (version 1)

1. **The quadratic formula says if** $ax^2 + bx + c = 0$ **then** $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. **Use the quadratic formula to solve the following equation.**

$$x^2 - 10x + 37 = 0$$

Simplify your answer(s) as much as possible.

2. **Express the product of** $-4 + 9i$ **and** $2 + 6i$ **in standard form** $(a + bi)$.

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3. **Write function $f(x) = x^3 - 8x^2 + 19x - 12$ in factored form. I'll give you a hint: one factor is $(x - 4)$.**

4. **Polynomial p is defined below in factored form.**

$$p(x) \;=\; -(x+4)^2 \cdot (x-1) \cdot (x-6)$$

Sketch a graph of polynomial $y = p(x)$.